

IN THE DRAWINGS:

The attached sheet of drawings includes changes to FIG. 3. This sheet replaces the original sheet of drawings including FIGS. 2-4. FIG. 3 has been amended to add reference numbers 18 and 19, as disclosed in paragraph [0057] of the specification.

REMARKS

By this Amendment, claims 1-2, 7-8, 10-11, 13-20, 31-33, 36-37, 39, 41-44, and 46, the specification and the drawings are amended and new claims 48-51 are added. The claims have been amended to further recite the claimed subject matter, correct typographical errors or provide consistency of dependency without the intention of narrowing the scope of any of the claims. The specification is amended to correct a minor clerical mistake. FIG. 3 is amended to include reference numbers 18 and 19 identified in paragraph [0057] of the detailed description of the present application. A replacement sheet including new FIG. 3 and FIGS. 2 and 4 is enclosed herewith. New claims 48-51 are added to further recite the claimed invention. No new matter has been added. Accordingly, after entry of the Amendment, claims 1-50 will remain pending in the patent application. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Applicants appreciate the Examiner's indication that claims 21-30 are allowed and that claims 2-6, 11, 19, 20, 33, 34, 38, 39, 45 and 46 would be allowable if rewritten in independent form. However, Applicants respectfully submit that claims 2-6, 11, 19, 20, 33, 34, 38, 39, 45 and 46 are patentable for at least the same reasons provided below.

The Examiner indicated that the publication number 2004/0123351 of the U.S. Patent Application Publication to Krautschik provided in the Information Disclosure Statement (IDS) of January 6, 2005 was erroneous. The correct publication number of U.S. Patent Application Publication to Krautschik is 2004/125351 and is shown as such in Applicant's IDS of January 6, 2005. Applicants do not know where the publication number 2004/0123351 comes from. Applicants submit herewith another copy of PTO Form 1449 citing U.S. Patent Application Publication 2004/125351. The Examiner is respectfully requested to initial this reference and sign and date PTO Form 1449 and return it to Applicants' representative with the next communication from the Office.

Furthermore, Applicants respectfully request an initialed copy of the IDS letters of January 6, 2005, June 2, 2004 and February 20, 2004, which cite various unpublished patent applications, and PTO Form 1449 of November 12, 2003.

Applicants note that a certified copy of the foreign priority document was filed with the original application. A copy of the submission (including the first page of the priority document) and the stamped postcard, therefore, are enclosed.

In the Office Action, claims 7, 10 and 11 were objected to. In response, claims 7 and 11 are amended to provide antecedent basis to "said gas seal". The Examiner indicated that

the cover plate surrounding the substrate was not disclosed in the written description. Applicants respectfully disagree and note that this feature is disclosed, for example, in paragraph [0063] of the detailed description of the present application. Accordingly, reconsideration and withdrawal of the objection to claims 7, 10 and 11 are respectfully requested.

Claims 1, 7-9, 10, 12-18, 31, 32, 35-37, 40-44 and 47 were rejected under 35 U.S.C. §102(e) based on Lin (U.S. Pat. Publ. No. 2004/0075895). The rejection is respectfully traversed.

Claim 1 is patentable over Lin at least because this claim recites a lithographic projection apparatus comprising, *inter alia*, “a liquid confinement structure configured to extend along at least a part of the boundary of said space and over a portion of said substrate.” Lin does not disclose, teach or suggest an apparatus including at least this feature. Therefore, Lin does not disclose, teach or suggest each and every feature recited by claim 1 and, as a result, cannot anticipate claim 1.

Lin discloses an apparatus for immersion lithography that includes a fluid containing wafer stage 12 which includes vacuum means 14 for clamping the wafer 20 to the wafer stage 15. (*See* paragraph [0031]). Lin also discloses that the fluid containing wafer stage includes an internal cavity 18 for holding a fluid 22. (*See* paragraph [0032]) Lin further discloses that a fluid retaining means 82 is utilized to keep the fluid 22 between the front surface 44 of the imaging lens 36 and the top surface 38 of the wafer 20. (*See* paragraph [0037]). Lin is however completely silent about a liquid confinement structure configured to extend along at least a part of the boundary of the space and over a portion of the substrate. Lin merely teaches that the side 42 (identified in the Office Action as the “liquid confinement structure”) of the wafer chuck 16 surrounds the substrate 20. However, side 42 does not and is not configured to extend over a portion of the substrate. Therefore, claim 1 is patentable over Lin.

Claims 7-10 and 12-15 are patentable over Lin at least by virtue of their dependency from claim 1 and for the additional features recited therein.

Claim 16 is patentable over Lin at least because this claim recites an immersion lithographic projection apparatus, comprising, *inter alia*, “a liquid confinement structure configured to extend along at least part of the boundary of a space bounded by the periphery of a localized area on the surface of a substrate and said surface of said substrate, said space configured to contain a liquid through which said beam is to be projected and said structure configured to substantially seal at least part of said space.” Lin does not disclose, teach or

suggest an apparatus including this feature. Therefore, Lin does not disclose, teach or suggest each and every feature recited by claim 16 and, as a result, cannot anticipate claim 16.

Lin merely discloses that a wafer is placed in a cavity 18 formed in the wafer chuck 16. The space defined by the cavity 18 is filled with a liquid 22. Lin, however, does not disclose, teach or suggest at least part of a space, bounded by the periphery of a localized area on the surface of a substrate and the surface of the substrate, is sealed by a liquid confinement structure. As can be seen in FIG. 1b of Lin, there is nothing that seals a portion of such a space, and the liquid 22 can freely move inside the cavity without any liquid being sealed in a space bounded by the periphery of a localized area on the surface of the wafer and the surface of the wafer. Therefore, claim 16 is patentable over Lin.

Claims 17-18 are patentable over Lin at least by virtue of their dependency from claim 16 and for the additional features recited therein.

Claim 31 is patentable over Lin at least because this claim recites an immersion lithographic projection apparatus comprising, *inter alia*, a liquid confinement structure configured to substantially seal at least part of a space bounded by a surface of a substrate and the boundary of a portion of said surface. Lin does not disclose, teach or suggest an apparatus including this feature. Therefore, Lin does not disclose, teach or suggest each and every feature recited by claim 31 and, as a result, cannot anticipate claim 31.

As mentioned previously in the discussion related to claim 16, the liquid 22 in Lin can freely move inside the cavity 18 without any liquid being sealed in a space bounded by a surface of the wafer 20 and the boundary of a portion of the surface. Lin is completely silent about a structure that is configured to seal at least part of such a space. Therefore, Lin cannot anticipate claim 31.

Claims 32 and 35 are patentable over Lin at least by virtue of their dependency from claim 31 and for the additional features recited therein.

Claim 36 is patentable over Lin at least because this claim recites a lithographic projection apparatus comprising, *inter alia*, a liquid confinement structure having an aperture having a cross-sectional area smaller than a surface area of a substrate and a seal between said structure and a substrate. Lin does not disclose, teach or suggest an apparatus including these features. Therefore, Lin does not disclose, teach or suggest each and every feature recited by claim 36 and, as a result, cannot anticipate claim 36.

In Lin, the side 42 of the chuck (identified as the "liquid confinement structure" by the Office Action) does not have an aperture that has a cross-sectional area smaller than a surface area of the substrate. To the contrary, the cross-sectional area of the side 42 is larger

than the surface area of the substrate. Lin is completely silent about a liquid confinement structure having the characteristics of claim 36. Therefore, claim 36 is patentable over Lin.

Claims 37 and 40 are patentable over Lin at least by virtue of their dependency from claim 36 and for the additional features recited therein.

Claim 41 is patentable over Lin at least because this claim recites an immersion lithographic projection apparatus comprising, *inter alia*, “a liquid confinement structure that can substantially confine all of a liquid provided to an area of a radiation-sensitive surface of a substrate under said projection system, said area being smaller than the entire area of said substrate surface.” Lin does not disclose, teach or suggest an apparatus including these features. Therefore, Lin does not teach or suggest each and every feature recited by claim 41 and, as a result, cannot anticipate claim 41.

As mentioned previously in the discussion related to claims 16, 31 and 36, the liquid 22 provided to an area smaller than an area of the substrate is not confined by any element in Lin. In Lin, the liquid 22 can freely move in and out of a space that extends over the entire area of the substrate 20. Therefore, Lin does not anticipate claim 41.

Claims 42-44 and 47 are patentable over Lin at least by virtue of their dependency from claim 41 and for the additional features recited therein.

Accordingly, reconsideration and withdrawal of the rejection of claims 1, 7-9, 10, 12-18, 31, 32, 35-37, 40-44 and 47 under 35 U.S.C. §102(e) based on Lin are respectfully requested.

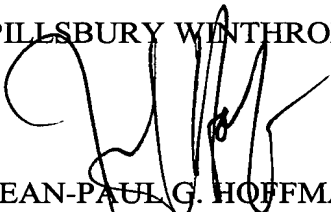
Applicants have addressed all the Examiner's rejections and objections and respectfully submit that the application is in condition for allowance. A notice to that effect is earnestly solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

LOF ET AL. -- 10/705,805  
Client/Matter: 081468-0306781

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

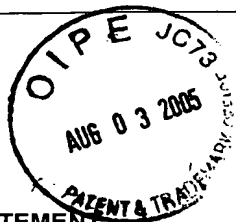
Respectfully submitted,

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Atty.  
Dkt. No.

M#

Client Ref.

0306781

P-0381.010-US

**INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT**

Applicant: LOF et al.

Appln. No.: 10/705,805

Filing Date: November 12, 2003

Date: August 3, 2005

Page 1 of 1

Examiner: Kim

Group Art Unit: 2851

**U.S. PATENT DOCUMENTS**

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
	AR	2004/125351	07/2004	KRAUTSCHIK	355	53
	BR					
	CR					
	DR					
	ER					
	FR					
	GR					
	HR					

**FOREIGN PATENT DOCUMENTS**

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclosed	No
	IR							
	JR							
	KR							
	LR							
	MR							
	NR							
	OR							
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	YR							
	ZR							
	AAR							

**OTHER (Including in this order: Author, Title, Periodical Name, Date, Pertinent Pages, etc.):**

	BBR							
	CCR							
	DDR							
	EER							
	FFR							

Examiner:

Date Considered:

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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PTO RECEIPT Attorney Docket: 081468-0306781

Atty: Jack Barufka/JPH:K.S. Hines

Appln. No: / ,000 Date: November 12, 2003

Inventor(s): Joeri LOF *et al.*

Title: LITHOGRAPHIC APPARATUS AND DEVICE  
MANUFACTURING METHOD

☐ Preliminary Amendment ☒ Application Data Sheet  
☐ Appendix ☒ Utility/Design/Provisional

☒ 19 No. of Pages Application (Spec + Claim(s) + Abstract)

☐ No. of Pages Separate Power of Attorney

☒ 47 No. of Numbered Claims Only

☐ Declaration (    of pages)

☐ Assignment ☐ Cover Sheet

☒ 1 No. of Priority Documents

☒ 2 No. of Sheets of Drawings (Fig(s) 1-4)

☐ IDS ☐ Appendix for Cited Appl(s)

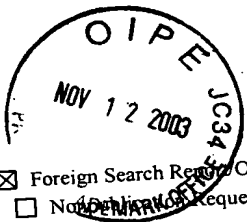
☒ PTO-1449 ☒ Cited Documents

☒ Foreign Search Report/OA  
☐ Nonpublication Request

\$            Total Fee Charged to Deposit Account 033975

Other: Submission of Priority Document

CURRENT DUE DATE:



DATE \_\_\_\_\_

CDC-285A 7/96

PTO RECEIPT Attorney Docket: 081468-0306781

Atty: Jack Barufka/JPH:K.S. Hines

Appln. No: / ,000 Date: November 12, 2003

Inventor(s): Joeri LOF *et al.*

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Other: Submission of Priority Document

CURRENT DUE DATE:

22388 U.S. PTO  
10/705805



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CDC-285A 7/96





Practitioner's Docket No.: 081468-0306781  
Client Reference No.: P-0381.020-US

**PATENT**

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Joeri LOF *et al.*

Confirmation No: Not Yet Assigned

Application No.: Not Yet Assigned

Group No.: Not Yet Assigned

Filed: November 12; 2003

Examiner: Not Yet Assigned

For: LITHOGRAPHIC APPARATUS AND DEVICE MANUFACTURING METHOD


Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**SUBMISSION OF PRIORITY DOCUMENT**

Attached please find the certified copy of the foreign application from which priority is claimed for this case:

<u>Country</u>	<u>Application Number</u>	<u>Filing Date</u>
Europe	02257822.3	11/12/2002

Date: November 12, 2003

  
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The attached documents  
are exact copies of the  
European patent application  
described on the following  
page, as originally filed.

Les documents fixés à  
cette attestation sont  
conformes à la version  
initialement déposée de  
la demande de brevet  
européen spécifiée à la  
page suivante.

**Patentanmeldung Nr.    Patent application No.    Demande de brevet n°**

02257822.3

Der Präsident des Europäischen Patentamts;  
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets  
p.o.

**R C van Dijk**